

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY



To:

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **30 OCTOBER 2004 (30.10.2004)**

Applicant's or agent's file reference
03FKWM023

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2004/001727

International filing date (day/month/year)

13 JULY 2004 (13.07.2004)

Priority date (day/month/year)

21 JULY 2003 (21.07.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC7 F24C 15/20

Applicant

LG ELECTRONICS, INC. et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



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Box No. 1 Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-29	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	11-18, 25	NO
Industrial applicability (IA)	Claims	1-29	YES
	Claims		NO

2. Citations and explanations :

Reference is made to the following documents:

D1: US 6,344,637 B2 (LG ELECTRONIC INC.) 5 February 2002
D2: KR 97-44154 U (LG ELECTRONIC INC.) 31 July 1997
D3: JP 57-201421 U (TOKYO SHIBAURA CORP.) 22 December 1982
D4: US 5,918,589 A (WHIRLPOOL CORP.) 6 July 1999

1. Novelty

The present invention includes features which are not disclosed in D1-D4. Therefore, the subject matter of claims 1-29 is considered to be novel.

2. Inventive Step

1) Claims 11, 12 and 14 relate to an air flow system in a microwave oven, comprising a first intake port formed at an upper side of a door of the microwave oven, a front outlet port formed at a front lower side thereof and a ventilation fan assembly installed at an electronic equipment chamber. Said air flow system in a microwave oven of claims 11, 12 and 14 is similar to the air flow system in a microwave oven of D1 which includes a suction grille, an exhaust grille and a fan assembly.

2) Claim 13 is characterized in that the outlet port is formed through a front plate of the oven of claim 11 and D4 discloses the row of vent (26) formed through a front plate of the oven. There is a difference in the location between the port of claim 13 and vent of D4 but said difference is trivial to a person skilled in the art since a person skilled in the art would select the location of a port straightforwardly in accordance with circumstances.

3) Claims 15 and 16 include a base plate having a lower outlet port in addition to the feature of claim 11. However said base plate is similar to the base plate having the lower outlet port (17') of D2.

(continued on supplemental sheet)

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of :

Box V.

4) Claim 17 includes a second intake port at a rear side of the electronic equipment chamber in addition to the feature of claim 11. However and said intake port is a general means in the field of ventilation system of oven as shown in D3 and D4.

5) Claims 18 and 25 relate to an air flow system in a microwave oven comprising an intake port at a rear side of the electronic equipment chamber, a lower outlet port and a ventilation fan assembly. Said air flow system in a microwave oven of claims 18 and 25 is similar to the air flow system in a microwave oven of D3 which includes a rear intake port, a lower outlet port and a fan assembly.

Therefore, the subject matter of claims 11-18 and 25 is considered to lack an inventive step.

3. Industrial applicability

Since the present invention relates to an air flow system in a microwave, the subject matter of claims 1-29 is considered to be industrially applicable.